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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:	) Date: March 16, 2006
James A. Euchner et. al.	) Attorney Docket No.: F-660
Serial No.: 10/645,376	) Customer No.: 00919
Filed: August 21, 2003	) Group Art Unit: 2876
Confirmation No.: 7462	) Examiner: Jared Fureman
Title: POSTAGE INDICIA INCLUDING ENCODED INK CHARACTERISTIC DATA	

TRANSMITTAL OF APPEAL BRIEF (PATENT APPLICATION 37 CFR 1.192)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith in **triplicate** is the **APPEAL BRIEF** in the above-identified patent application with respect to the Notice of Appeal filed on January 20, 2006.

Pursuant to 37 CFR 1.17(c), the fee for filing the Appeal Brief is $500.00

Please charge Deposit Account No. **16-1885** in the amount of $500.00 to cover the above fees.

The Commissioner is hereby authorized to charge any additional fees which may be required to Deposit Account No. **16-1885**.

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Respectfully submitted,

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Name of Rep.

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APPELLANT'S BRIEF

Mail Stop Appeal Brief-Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

This brief is in furtherance of the Notice of Appeal filed in this case on January 20, 2006

This Brief is transmitted in triplicate.

TABLE OF CONTENTS

This brief contains these items under the following headings and in the order set forth below:

I   REAL PARTY IN INTEREST

Pitney Bowes Inc. is the real party in interest.

II   RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

III   STATUS OF CLAIMS

a) Claims 1 - 28 are in the application.

b) Claims 1 - 28 are rejected.

c) Claims 1 - 28 are on appeal.

IV   STATUS OF AMENDMENTS

No Amendment has been entered subsequent to the October 25, 2005, Final Rejection.

V   SUMMARY OF CLAIMED SUBJECT MATTER

A.   Background

The prior art does not provide an apparatus and method that reads first ink physical characteristic data from an indicia, detects at least one ink physical characteristic of the indicia to generate second ink characteristic data; and compares the second ink physical characteristic data with the first ink physical characteristic data to verify the indicia.

Postage meters are well known. An important aspect of any system that includes postage meters is protection of postal revenue and prevention and deterrence of postage indicia counterfeiting. While currently available systems generally operate satisfactorily in this regard, they do not verify the indicia by reading data contained in the indicia and comparing the read data with data obtained by detecting optical or related characteristics of the ink used to print the indicia.

B. **Appellant claims an apparatus and method that reads first ink physical characteristic data from an indicia, detects at least one ink physical characteristic of the indicia to generate second ink characteristic data; and compares the second ink physical characteristic data with the first ink physical characteristic data to verify the indicia.**

In one aspect, an apparatus includes a reader that reads first ink characteristic data from an indicia, and a detection mechanism that detects at least one ink characteristic of the indicia to generate second ink characteristic data. The apparatus further includes a processing mechanism that is coupled to the reader and to the detection mechanism and that compares the second ink characteristic data with the first ink characteristic data. The ink characteristic detected by the detection mechanism may include one or more of a color or colors, a spectral characteristic or characteristics, and a luminescence characteristic or characteristics. A single scanner may be shared by both the reader and the detection mechanism. The first ink characteristic data may be encoded as a symbol or symbols that are part of the indicia and are read by the reader.

In another aspect, an apparatus includes a print element for applying ink to a substrate to form an indicia and a processing mechanism that is coupled to the print element for causing the print element to print at least one symbol as part of the indicia. The at least one symbol includes ink characteristic data that is indicative of a characteristic of the ink. The characteristic of the ink indicated by the ink characteristic data may include one or more of a color or colors of the ink employed in forming the indicia, a spectral characteristic or characteristics of the ink, and a luminescence characteristic or characteristics of the ink. The indicia may include a plurality of panels printed in different colors of ink, and the ink characteristic data may indicate the respective colors of each of the panels. The processing mechanism may cause the print element to print the ink characteristic data in encrypted form.

By printing postage indicia with ink having characteristics that vary from indicia to indicia, and encoding in each indicia data that indicates the characteristics of the ink employed for printing the indicia, the invention may

make it more difficult to counterfeit postage indicia and may aid in machine inspection and verification of postage indicia.

Claim 1 is the first of the four independent claims in this patent application. Claim 1 is an apparatus that comprises the following elements.

reading means for reading first ink physical characteristic data from an indicia;

detecting means for detecting at least one ink physical characteristic of the indicia to generate second ink characteristic data; and

processing means, coupled to the reading means and to the detecting means, for comparing the second ink physical characteristic data with the first ink physical characteristic data.

The foregoing apparatus is shown in Fig. 1 and in paragraph 0016 of page 4 to paragraph 0022 of page 6 of Appellants' Patent Application. A copy of Fig. 1 appears next to this page.

Referring now to the drawings, and particularly to FIG. 1, the reference numeral 10 indicates generally a postage indicia printing apparatus in accordance with principles of the present invention. The printing apparatus 10 includes a print element 12 that is configured to print an indicia (not shown in FIG. 1) on a mailpiece, a label or another type of substrate, indicated by reference numeral 14. In some embodiments, the print element 12 may be a color ink jet printer which is capable of printing a multi-colored indicia using inks of different respective colors from a plurality of ink cartridges (generally indicated by ink source(s) block 16 in the drawing). Alternatively, even if plural ink cartridges of different colors of ink are employed, the print element 12 may be operated to produce an indicia that appears to be monochrome. As another alternative, assuming plural ink cartridges are employed, one or more inks in the respective cartridges may differ from one or more of the other ink or inks only in terms of a luminescence characteristic such as fluorescence or phosphorescence. In other embodiments, the print element may be a printer of the type employed in conventional

The printing apparatus 10 also includes a processing and control block 18, which is coupled to and controls the print element 12. The coupling of the processing and control block 18 to the print element 12 may be via a data channel 20. In accordance with conventional practices, the data channel 20 may be secured by encryption performed in the processing and control block 18 and/or the print element 12. In some embodiments, hardware aspects of the processing and control block 18 may be constituted by conventional electronics used to control known types of postage meter, but programmed with software provided in accordance with principles of the present invention. (Program storage and working memory aspects of the processing and control block 18 are not separately shown.)

The printing apparatus 10 also includes an ink characteristic determination block 22 that is coupled to the processing and control block 18. In some embodiments, the ink characteristic determination block 22 may not include any hardware that is separate from the processing and control block 18, but may rather be constituted by hardware shared with the processing and control block software and by software which programs the processing and control block hardware to cause the print element 12 to select a combination of inks from the ink sources 16 to be used in printing a particular indicia. The combination of inks may be changed by the ink characteristic determination block 22 from indicia to indicia. In some embodiments, the various combinations of inks that may be printed by the print element 18 in response to the processing and control block 18 and the ink characteristic determination block 22 may all result in indicia that appear similar in color to the human eye, but have differing spectral characteristics that can be detected by suitable detection equipment. In other embodiments, the various combinations of inks may have different luminescence characteristics that can be detected by suitable detection equipment. An example of such an embodiment is described in the Example set forth below. In still other embodiments, the ink characteristic determination block 22 may operate to cause different portions of an indicia to be printed in different colors. The ink characteristic determination block 22 may select for each portion of the indicia a respective color in which the portion of the indicia is to be printed. The

selection of a particular color for a portion of the indicia may be considered to be selection (determination) of an ink characteristic with respect to that portion of the indicia. The respective colors in which the various portions of the indicia are printed may be varied from indicia to indicia under the control of the ink characteristic determination block 22. If the processing and control block 18 and the ink characteristic determination block 22 are implemented with shared hardware, the coupling of the ink characteristic determination block 18 to the processing and control block 18 may be implemented by message passing and/or other interaction between software modules that respectively handle ink characteristic selection and other process and control functions.

The processing and control block 18 may be controlled by the ink characteristic determination block 22 to cause the print element 12 to select inks from the ink sources 16 to print colors or to otherwise provide an ink characteristic or characteristics selected by the ink characteristic determination block 22. Data which indicates a color or colors or other ink characteristic or characteristics selected by the ink characteristic determination block 22 is also an input to the processing and control block 18 from which the processing and control block 18 generates data to be encoded within the indicia. It should also be noted that the processing/control and ink characteristic determination functions, though shown as separate blocks 18, 22, may be substantially or completely integrated with each other.

In other embodiments, the ink characteristic determination block 22 may determine the ink characteristic or characteristics based on data provided from outside of the ink characteristic determination block 22. For example, an ink cartridge 16 may carry a code (e.g., a barcode or an identification code read out by a radio frequency identification (RFID) circuit (not shown) carried on the ink cartridge 16) to identify at least one characteristic of the ink contained in the ink cartridge 16. The code may be read (as indicated by dashed arrow 24) from the ink cartridge 16 by the ink characteristic determination block 22, and corresponding data may be provided from the ink characteristic determination block 22 to the processing and control block 18. In these embodiments, the ink

characteristic determination block 22 may include a bar code reader or an RFID reader.

In other embodiments, the ink characteristic determination block 22 may determine the ink characteristic or characteristics spectroscopically or otherwise optically by analyzing a sample indicia or other printed sample.

The print element 12 may be implemented with two or more print elements.

Claim 8 is the second of the four independent claims in this patent application. Claim 8 is a method that includes the following steps.

reading first ink physical characteristic data from an indicia;

detecting at least one ink physical characteristic of the indicia to generate second ink characteristic data; and

comparing the second ink physical characteristic data with the first ink physical characteristic data to verify the indicia.

The foregoing is shown in Figs. 4 and 5 and in paragraph 0039 of page 11 to paragraph 0047 of page 13 of Appellants' Patent Application. A copy of Fig. 4 appears next to this page.

FIG. 4 is a high-level block diagram of an indicia reading and verification apparatus 100 according to principles of the invention.

The indicia reading and verification apparatus 100 includes two front-end modules, namely an indicia data reader 102 and an ink characteristic detection module 104. The indicia reading and verification apparatus 100 also includes a processing module 106 which is coupled to the front-end modules 102, 104 to receive data therefrom. The processing module 106 may include a conventional microprocessor or microcontroller and associated program and working memory, which are not separately shown.

The indicia data reader 102 is able to read data included in printed form in a postage indicia. The data read from the postage indicia by the indicia data reader 102 may be in the form of one or more symbols such as barcode elements or optically readable characters (which may also be standard human-

readable characters). The data read by the indicia data reader 102 may be in encrypted form. If the data is encrypted, the indicia data reader 102 may be capable of decrypting the data, or may pass the encrypted data to the processing module 106 for decryption by the processing module 106.

[0042] The data read from the indicia by the indicia data reader 102 includes ink characteristic data that indicates one or more characteristics of the ink or inks that were used to print the indicia. The ink characteristic data may include one or more of a color or colors in which the indicia or portions thereof are printed, one or more spectral characteristics of the ink of the indicia, one or more luminescence characteristics (fluorescence and/or phosphorescence characteristic or characteristics), one or more light reflectance, absorbance and/or emission characteristics. The characteristics of the ink may pertain to visible and/or infra-red light, for example.

The ink characteristic detection module 104 operates by spectral analysis, color detection and/or filtering, luminescence detection or other visible or IR radiation detection to detect one or more optical characteristics of the ink or inks employed to print the indicia. The ink characteristic detection module generates ink characteristic data that is indicative of the ink characteristic or characteristics detected by the ink characteristic detection module and provides that data to the processing module 106. In some embodiments, the ink characteristic detection module 104 may include a spectrophotometer or a spectral scanner. In other embodiments the ink characteristic module 104 may include a color analyzer that can analyze and detect respective colors of various portions of the indicia. In still other embodiments, the ink characteristic detection module 104 may include a fluorescence and/or phosphorescence detector such as a fluorometer.

The processing module 106 receives the ink characteristic data provided by the indicia data reader 102 and by the ink characteristic detection module 104. If the data from the indicia data reader 102 is in encrypted form, the processing module 106 decrypts it. The processing module 106 compares the decrypted ink characteristic data from the indicia data reader 102 with the ink characteristic data generated by the ink characteristic detection module 104. If the two ink characteristic data match (i.e., both indicate the same ink or inks were used for

the indicia or for the same portions of the indicia), then the processing module 106 may determine that the indicia is verified.

FIG. 5 is a more detailed block diagram of certain embodiments of an indicia reading and verification apparatus 120 and is set forth next to this page. The indicia reading and verification apparatus 120 may be one example of the indicia reading and verification apparatus 100 shown in FIG. 4.

The apparatus 120 of FIG. 5 includes a scanner 122 that is arranged to scan a mailpiece 124 to capture a color image of an indicia (not separately shown in FIG. 5) from the mailpiece 124. The apparatus 120 also includes an analysis portion 126 which is coupled to the scanner 122 to receive from the scanner 122 image data which is generated by the scanner 122 and represents the image of the indicia. The image data is represented by block 128 in the analysis portion 126. The image data block 128 may comprise, for example, storage and/or preliminary analysis of the image data. The analysis portion 126 includes a symbology reading block 130 and a color or other optical analysis block 132, both of which operate on the color image data of block 128. The analysis portion 126 further includes a verification processing portion block 134 which receives first ink characteristic data from the symbology reading block 130 and second ink characteristic data from the color/optical analysis block 132.

The symbology reading block 130 may disregard any color variations across the indicia and may treat the image data as representing a monochrome image. The symbology reading block 130 may consider only a data field of the indicia.

Claim 15 is the third of the four independent claims in this patent application. Claim 15 is an apparatus that comprises the following elements.

a print element for applying ink to a substrate to form an indicia; and

processing means coupled to the print element for causing the print element to print at least one symbol as part of the indicia, the at least one symbol including ink physical characteristic data that is indicative of a physical characteristic of the ink.

The foregoing apparatus is shown in paragraph 0016 of page 4 to paragraph 0022 of page 6 of Appellants' Patent Application, which has been set forth above.

Claim 22 is the forth of the four independent claims in this patent application. Claim 22 is a method that includes the following steps.

determining a physical characteristic of ink to be applied on a substrate; and

applying the ink to the substrate to form an indicia such that the indicia includes at least one symbol, the at least one symbol including ink physical characteristic data that is indicative of the physical characteristic of the ink.

The foregoing method is shown in paragraph 0039 of page 11 to paragraph 0047 of page 13 of Appellants' Patent Application, which has been set forth above.

VI GROUNDS OF REJECTION TO BE REVIEWED

A. Whether or not claims 15 - 20 and 22-27 are patentable under 35 U.S.C. §102(a and e) for being anticipated by Sansone (U.S. Patent No. 6,574,000).

B. Whether or not claims 1 - 28 are patentable under 35 USC § 103 (a) as being unpatentable over Leon (U.S. Patent 6,701,304) in view of Sansone (U.S. Patent No. 6,574,000).

VII ARGUMENTS

A. Claims 15 - 20 and 22-27 have been rejected by the Examiner under 35 U.S.C. §102(a and e) for being anticipated by Sansone (U.S. Patent No. 6,574,000).

A (1).   Claim 15

Sansone discloses the following in line 47 of column 2 – line 16 of column 3.

> "This invention overcomes the disadvantages of the prior art by providing a system that will supply permanent and human and machine readable evidence that a approved printer or unapproved printer was used to print the indicia in question. The system will first capture the postal customer's or

mailers printer type and configuration setting information, paper, ink, or toner combination and then use the foregoing information to enable printing of the Information-Based Indicia if the active printer going to print the indicia is found on a stored (local or remote) "Information-Based Indicia Approved Printer's List". Then the system will add this same printer information to the USPS defined Information-Based Indicia print field format so as to provide evidence that an approved printer or unapproved printer or proper supplies were used. The foregoing printer information may be printed in a coded form on the Information-Based Indicia to automate the sortation of indicium that cannot be read. Thus, this invention will improve the processing of Information-Based Indicia mail by reducing an eventually virtually eliminating the use of printers, printer settings, paper envelopes, inks and toners that cannot be read by Information-Based Indicia scanners. Hence, this invention will improve the processing of mail.

The foregoing is accomplished by collecting information about the indicia printer, the indicia printer settings, the paper on which the indicia is going to be printed and the ink or toner that is going to be used to print the indicia, using the program contained in the user computer. Then the program contained in the user computer decides if the printer, paper, ink, or toner combination is approved by the USPS to allow printing. At this point the program contained in the user computer notifies the user of the status of the selected printer, paper and ink, or toner. Now, the program contained in the Postal Security Device computer adds the coded representation of the selected printer, paper and ink or toner to the indicia to automate the post processing of mail pieces that have indicia that cannot be read."

Sansone discloses the following in line 62 of col. 3 to line 26 of col. 4.

"FIG.2 is a drawing of a Information-Based Indiciacontaining a code that represents the printer, printer settings, ink, or toner and paper in which the indicia was printed. The postal indicia **20** contains a dollar amount **13**, the date **14** that the postal indicia was affixed to the mail piece, the place the mail piece was mailed form **15**, the postal meter serial number **16**, a FIM code **17** and a 2D encrypted barcode **18**. Mail piece **12** is going to be sent to the person and place indicated in address field **20**.

Postal Indicia **21** has a human readable or machine readable code **22** that represents the postal customer's or mailers printer type and configuration setting-information, paper, ink, or toner combination. Code **22** may be of the form A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P and Q. Where, the positions held by letters A and B may be used to represent the manufacturer of the printer that printed indicia **21** and the positions held by letters C, D, and E may be used to represent the model of the printer that printed indicia **21**. The position held by letter E may be used to represent the print density of the printer that printed indicia **21** and the position held by letter F may be used to represent the print dither type of the printer that printed indicia **21**. The position held by letters G and H may be used to represent the envelope size of the envelope in which indicia **21** was affixed and the position held by letters I and J may be used to represent the paper type in which indicia **21** to was affixed. The position held by letters K, L, and M may be used to represent the type of ink that was used to print indicia **21** and the position held by letters N, O and P may be used to represent the toner type in which indicia **21** was affixed. Letter O may be used as a control for error correction."

The position held by letters K, L and M are used by Sansone to represent the type of ink that was used to print indicia 21. The foregoing information is used along with the mailers printer type, printer configuration settings, paper to enable the mailers printer to print an Information-Based Indicia, if the mailers printer that is going to print the indicia is found on a "Information-Based Indicia Approved Printers List." Sansone adds the printer information to an Information-Based Indicia print field to provide evidence that an approved printer was used to print the Indicia.

Claim 15 is not disclosed or anticipated by Sansone. Sansone does not disclose or anticipate processing means coupled to the print element for causing the print element to print at least one symbol as part of the indicia, the at least one symbol including ink physical characteristic data that is indicative of a physical characteristic of the ink. Sansone discloses the type of ink i.e. a Hewlett Packard ink cartridge that may be used with certain specified Hewlett Packard printers does not disclose anything about the physical characteristics of the ink in the cartridge.

A (2). Claims 16, 19 and 20

Claims 16, 19 and 20 depend on claim 15.

Claim 16 further defines ink characteristic data to be indicative of a color of the ink.

Claim 19 further defines ink characteristic data to be indicative of at least one spectral characteristic of the ink.

Claim 20 further defines ink characteristic data to be indicative of at least one luminescence characteristic of the ink.

In addition to the argument made in above section A (1) please consider the following. Sansone does not disclose or anticipate utilizing the color of the ink, spectral characteristic of the ink or the luminescence characteristic of the ink.

A (3) Claim 21

Claim 21 depends on claim 15. Claim 21 claims that the processing means causes the print element to print ink characteristic data in encrypted form.

In addition to the arguments made in above section A (1) please consider the following. Sansone does not disclose or anticipate a processing means that the print element to print ink characteristic data in encrypted form.

A (4) Claims 17 and 18

Claims 17 depends on claim 16, which depends on claim 15 and claim 18 depends on claim 17.

Claim 17 further claims that the indicia includes a plurality of panels, and that the ink characteristic data is indicative of respective colors of the plurality of panels.

Claim 18 further claims that at least two of the panels of claim 17 are of different colors.

In addition to the arguments made in above section A (1) please consider the following. Sansone does not disclose or anticipate a plurality of panels that comprise different colors..

A (5) Independent Claim 22

In addition to the arguments made in above section A (1) please consider the following. Claim 22 is not disclosed or anticipated by Sansone. Sansone

does not disclose or anticipate applying the ink to the substrate to form an indicia such that the indicia includes at least one symbol, the at least one symbol including ink physical characteristic data that is indicative of the physical characteristic of the ink.

A (6) Claims 23, 26 and 27

Claims 23, 26 and 27 depend on claim 22.

Claim 23 further defines ink characteristic data to be indicative of a color of the ink.

Claim 26 further defines ink characteristic data to be indicative of at least one spectral characteristic of the ink.

Claim 27 further defines ink characteristic data to be indicative of at least one luminescence characteristic of the ink.

In addition to the argument made in above section A (1) please consider the following. Sansone does not disclose or anticipate utilizing the color of the ink, spectral characteristic of the ink or the luminescence characteristic of the ink.

A (7) Claim 28

Claim 28 depends on claim 22. Claim 28 claims that the applying step includes printing the ink characteristic data in encrypted form.

In addition to the arguments made in above section A (1) please consider the following. Sansone does not disclose or anticipate printing the ink characteristic data in encrypted form.

B. Claims 1-28 have been rejected by the Examiner under 35 USC § 103 (a) as being unpatentable over Leon (U.S. Patent 6,701,304) in view of Sansone.

B (1) Claims 1, 2, 6 and 7

I   Sansone has been discussed in above Section A (1). In addition to the argument made in above section A (1) please consider the following.

Leon discloses the following in lines 18-41 of column 13.

> "FIG. 5 shows a block diagram of an embodiment of an authentication system 500 for the detection of fraudulent

postage indicia. A mail piece **502** that includes a printed indicium label **504** is provided to the authentication system. Within the authentication system, a data reader **510** reads the human-readable information on the postage label, a symbology reader **520** reads the machine-readable information (e.g., the FIM marking, bar code, and others), and a marking detector **530** detects other imprints that may or may not be visible. The marking detector is designed to detect features not detected by readers **510** and **520**. For example, the marking detector can be designed to detect the identifiers and markings printed on the label, the use of invisible and/or fluorescent ink, the micro printing, taggants in the ink, and other features described above.

The information detected by these elements is passed to a computer **540** that analyzes, verifies, and authenticates the information retrieved from the postage label. For example, computer **540** can authenticate a digital signature that is imprinted on the postage label (i.e., using the SMD's public key that is provided in, and detected from the postage label). Computer **540** may also authenticate the postage information by comparing the decoded data with the unencoded data from the postage label."

Leon discloses the following in lines 53-67 of col. 9.

"Taggants can be manufactured specially for a particular postage service provider, and can be used to uniquely identify that provider. Thus, even if the ink and its fluorescent identifier are duplicated, the presence of taggants allows for analysis of indicium to determine whether it originates from an authorized metering device. Taggants can be used to disclourage counterfeits, and are especially effective because of their unsuspecting nature.
In one specific embodiment, taggant beads are manufactured with multi-coloerd layers that are visible, for example, under a microscope. The color layers can be arranged in patterns to encode information such as manufacturer's name, a batch number, or othe information. For example, each manufacturer can be assigned a unique color pattern that identifies that manufacturer."

Leon detects the identifiers and markings printed on the label and the use of invisible and/or fluorescent ink. Leon may also authenticate a digital signature and utilize color taggants to encode a manufacturer's name.

Leon or Sansone taken separately or together do not disclose or anticipate the following steps of claim 1 as amended and those claims dependent

thereon namely, detecting means for detecting at least one ink physical characteristic of the indicia to generate second ink characteristic data; and

processing means, coupled to the reading means and to the detecting means, for comparing the second ink physical characteristic data with the first ink physical characteristic data.

Appellant's claimed apparatus utilizes the physical characteristics of the ink not just the name of a manufacturer. The physical characteristics of indicias vary from indicia to indicia. Appellant's indicia includes data that indicates first ink physical characteristics of the ink employed for printing the indicia, which is read, detecting means that detect at least one ink physical characteristic of the indicia to generate second ink physical characteristic data, and processing means that compares the second ink physical characteristic data with the first ink physical characteristic data. The foregoing makes it more difficult to counterfeit postal indicia and may aid in machine inspection and verification of postage indicia.

Notwithstanding the foregoing, in rejecting a claim under 35 U.S.C. §103, the Examiner is charged with the initial burden for providing a <u>factual basis</u> to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *in re Lunsford,* 375 F.2d 385, 148 USPQ 721 (CCPA 1966); *in re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970). The Examiner is also required to explain <u>how</u> and <u>why</u> one having ordinary skill in the art would have been <u>led</u> to modify an applied reference and/or combine applied references to arrive at the claimed invention. *In re Ochiai*, 37 USPQ2d 1127 (Fed. Cir. 1995); **in re Deuel**, *51 F.3d 1552, 34 USPQ 1210 (Fed. Cir. 1995); in re Fritch*, 972 F.2d 1260, 23 USPQ 1780 (Fed. Cir. 1992); *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). In establishing the requisite motivation, it has been consistently held that <u>both the suggestion and reasonable expectation of success must stem from the prior art itself, as a whole.</u> *In re Ochiai*, <u>supra</u>; **in re Vaeck**, *947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); in re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *in re Dow Chemical Co.*, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988).

B (2) Claims 3 and 5

Claim 3 depends on claim 1 and claim 5 depends on claim 3.

Claim 3 claims ink characteristics that are detected by the detecting means to include at least one of: (a) a color of at least a portion of the indicia, (b) a spectral characteristic of the indicia, (c) a visible light absorption characteristic of the indicia, (d) a visible light reflectance characteristic of the indicia, (e) an infra-red absorption characteristic of the indicia, (f) an infra-red luminescence characteristic of the indicia, and (g) a visible luminescence characteristic of the indicia.

Claim 5, claims the detecting means detects at least one of: (a) a spectral characteristic of the indicia, and (b) a luminescence characteristic of the indicia.

In addition to the argument made in above sections A (1) and B (1) please consider the following.

Leon or Sansone taken separately or together do not disclose or anticipate at least one of the physical ink characteristics i.e. spectral characteristics of the indicia; visible light absorption characteristics luminesce characteristics of the indicia as claimed in claims 3 and 5.

B (3) Claim 4

Claim 4 depends on claim 3 and claim 3 depends on claim 1.

Claim 4 claims the detecting means of claim 3 detects respective colors of a plurality of different portions of the indicia.

In addition to the argument made in above sections A (1), B (1) and B (2) please consider the following.

Leon or Sansone taken separately or together do not disclose or anticipate detecting respective colors of a plurality of different portions of the indicia.

B (4) Claims 8, 9, 13 and 14

I   Sansone has been discussed in above Section A (1), Leon has been discussed in above Section B (1). In addition to the argument made in above section A (1) and B (1) please consider the following.

Leon or Sansone taken separately or together do not disclose or anticipate the following steps of claim 8 and those claims dependent thereon namely, detecting at least one ink physical characteristic of the indicia to

generate second ink characteristic data; and comparing the second ink physical characteristic data with the first ink physical characteristic data to verify the indicia.

B (5) Claims 10 and 12

Claims 10 and 12 depend on independent claim 8.

Claim 10 claims, the detecting step of claim 8 detects at least one of: a) a color of at least a portion of the indicia, (b) a spectral characteristic of the indicia, (c) a visible light absorption characteristic of the indicia, (d) a visible light reflectance characteristic of the indicia, (e) an infra-red absorption characteristic of the indicia, (f) an infra-red luminescence characteristic of the indicia, and (g) a visible luminescence characteristic of the indicia.

Claim 12 claims, the detecting step of claim 8 detects at least one of: (a) a spectral characteristic of the indicia, and (b) a luminescence characteristic of the indicia.

In addition to the argument made in above sections A (1) and B (1) please consider the following.

Leon or Sansone taken separately or together do not disclose or anticipate detecting at least one of a spectral characteristic of the indicia, a visible light absorption characteristic of the indicia, a visible light reflectance characteristic of the indicia, an infra-red absorption characteristic of the indicia, an infra-red luminescence characteristic of the indicia, and a visible luminescence characteristic of the indicia as claimed in claims 8 and 10.

B (6) Claim 11

Claim 11 depends on independent claim 8.

Claim 11 claims, the detecting step of claim 11 detects respective colors of a plurality of different portions of the indicia.

In addition to the argument made in above sections A (1), B (1) and B (4) please consider the following.

Leon or Sansone taken separately or together do not disclose or anticipate detecting respective colors of a plurality of different portions of the indicia.

B (7) Claims 15 and 21

In addition to the argument made in above sections A (1) and B (1) please consider the following.

Leon or Sansone taken separately or together do not disclose or anticipate the following element of claim 15 namely, processing means coupled to the print element for causing the print element to print at least one symbol as part of the indicia, the at least one symbol including ink physical characteristic data that is indicative of a physical characteristic of the ink.

B (8) Claims 16, 19 and 20

Claims 16, 19 and 20 depend on claim 15.

Claim 16 further defines ink characteristic data to be indicative of a color of the ink.

Claim 19 further defines ink characteristic data to be indicative of at least one spectral characteristic of the ink.

Claim 20 further defines ink characteristic data to be indicative of at least one luminescence characteristic of the ink.

In addition to the argument made in above section A (1) and B (1) please consider the following. Sansone and/ Leon do not disclose or anticipate utilizing the color of the ink, spectral characteristic of the ink or the luminescence characteristic of the ink.

B (9) Claims 17 and 18

Claims 17 depends on claim 16, which depends on claim 15 and claim 18 depends on claim 17.

Claim 17 further claims that the indicia includes a plurality of panels, and that the ink characteristic data is indicative of respective colors of the plurality of panels.

Claim 18 further claims that at least two of the panels of claim 17 are of different colors.

In addition to the arguments made in above sections A (1) and B (1) please consider the following. Sansone and/or Leon do not disclose or anticipate a plurality of panels that comprise different colors..

B (10) Independent Claim 22

In addition to the arguments made in above sections A (1) and B (1) please consider the following.

Leon or Sansone taken separately or together do not disclose or anticipate the following step of claim 22 namely, applying the ink to the substrate to form an indicia such that the indicia includes at least one symbol, the at least one symbol including ink physical characteristic data that is indicative of the physical characteristic of the ink. The cited references do not disclose or anticipate detecting data that indicates physical characteristics of the ink that was used to print the indicia and comparing the physical ink characteristics to verify the indicia.

B (11) Claims 23, 26 and 27

Claims 23, 26 and 27 depend on claim 22.

Claim 23 further defines ink characteristic data to be indicative of a color of the ink.

Claim 26 further defines ink characteristic data to be indicative of at least one spectral characteristic of the ink.

Claim 27 further defines ink characteristic data to be indicative of at least one luminescence characteristic of the ink.

In addition to the argument made in above sections A (1) and B (1) please consider the following. Leon or Sansone taken separately or together do not disclose or anticipate utilizing the color of the ink, spectral characteristic of the ink or the luminescence characteristic of the ink.
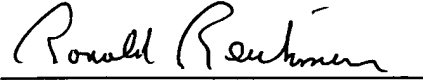
B (12) Claim 28

Claim 28 depends on claim 22. Claim 28 claims that the applying step includes printing the ink characteristic data in encrypted form.

In addition to the arguments made in above sections A (1) and B (1) please consider the following. Leon or Sansone taken separately or together do not disclose or anticipate printing the ink characteristic data in encrypted form.

In view of the above Appellants respectfully submit that appealed claims 1 - 28 in this application are patentable. It is requested that the Board of Appeal overrule the Examiner and direct allowance of the rejected claims.

Respectfully submitted,

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VIII APPENDIX OF CLAIMS INVOLVED IN THE APPEAL

What is claimed is:

1.   An apparatus comprising:

reading means for reading first ink physical characteristic data from an indicia;

detecting means for detecting at least one ink physical characteristic of the indicia to generate second ink characteristic data; and

processing means, coupled to the reading means and to the detecting means, for comparing the second ink physical characteristic data with the first ink physical characteristic data.

2.   The apparatus of claim 1, wherein the first ink characteristic data is included in the indicia in encrypted form, and the reading means includes means for decrypting the encrypted first ink characteristic data.

3.   The apparatus of claim 1, wherein the at least one ink characteristic detected by the detecting means includes at least one of: (a) a color of at least a portion of the indicia, (b) a spectral characteristic of the indicia, (c) a visible light absorption characteristic of the indicia, (d) a visible light reflectance characteristic of the indicia, (e) an infra-red absorption characteristic of the indicia, (f) an infra-red luminescence characteristic of the indicia, and (g) a visible luminescence characteristic of the indicia.

4.   The apparatus of claim 3, wherein the detecting means detects respective colors of a plurality of different portions of the indicia.

5.   The apparatus of claim 3, wherein the detecting means detects at least one of: (a) a spectral characteristic of the indicia, and (b) a luminescence characteristic of the indicia.

6.   The apparatus of claim 1, wherein the reading means and the detecting means comprise a single scanner that is shared by the reading means and the detecting means.

7.   The apparatus of claim 1, wherein the reading means includes means for reading at least one symbol included in the indicia.

8.   A method comprising:

reading first ink physical characteristic data from an indicia;

detecting at least one ink physical characteristic of the indicia to generate second ink characteristic data; and

comparing the second ink physical characteristic data with the first ink physical characteristic data to verify the indicia.

9.   The method of claim 8, wherein the first ink characteristic data is included in the indicia in encrypted form, and the reading step includes decrypting the encrypted first ink characteristic.

10.   The method of claim 8, wherein the detecting step includes detecting at least one of: (a) a color of at least a portion of the indicia, (b) a spectral characteristic of the indicia, (c) a visible light absorption characteristic of the indicia, (d) a visible light reflectance characteristic of the indicia, (e) an infra-red absorption characteristic of the indicia, (f) an infra-red luminescence characteristic of the indicia, and (g) a visible luminescence characteristic of the indicia.

11.   The method of claim 8, wherein the detecting step includes detecting respective colors of a plurality of different portions of the indicia.

12.   The method of claim 8, wherein the detecting step includes detecting at least one of: (a) a spectral characteristic of the indicia, and (b) a luminescence characteristic of the indicia.

13.   The method of claim 8, further comprising:

scanning the indicia with a scanner;

and wherein:

the reading step includes analyzing an image signal provided by the scanner; and

the detecting step includes analyzing the image signal provided by the scanner.

14.   The method of claim 8, wherein the reading step includes reading at least one symbol included in the indicia.

15.   An apparatus comprising:

a print element for applying ink to a substrate to form an indicia; and

processing means coupled to the print element for causing the print element to print at least one symbol as part of the indicia, the at least one symbol including ink physical characteristic data that is indicative of a physical characteristic of the ink.

16.   The apparatus of claim 15, wherein the ink characteristic data is indicative of a color of the ink.

17.   The apparatus of claim 16, wherein the indicia includes a plurality of panels, and the ink characteristic data is indicative of respective colors of the plurality of panels.

18.   The apparatus of claim 17, wherein at least two of the panels are of different colors.

19.   The apparatus of claim 15, wherein the ink characteristic data is indicative of at least one spectral characteristic of the ink.

20.   The apparatus of claim 15, wherein the ink characteristic data is indicative of at least one luminescence characteristic of the ink.

21.   The apparatus of claim 15, wherein the processing means causes the print element to print the ink characteristic data in encrypted form.

22.   A method comprising:

determining a physical characteristic of ink to be applied on a substrate; and

applying the ink to the substrate to form an indicia such that the indicia includes at least one symbol, the at least one symbol including ink physical characteristic data that is indicative of the physical characteristic of the ink.

23.   The method of claim 22, wherein the ink characteristic data is indicative of a color of the ink.

24.   The method of claim 23, wherein the applying step includes forming a plurality of panels of the indicia, and the ink characteristic data is indicative of respective colors of the plurality of panels.

25.   The method of claim 24, wherein at least two of the panels are of different colors.

26.   The method of claim 22, wherein the ink characteristic data is indicative of at least one spectral characteristic of the ink.

27.   The method of claim 22, wherein the ink characteristic data is indicative of at least one luminescence characteristic of the ink.

28.   The method of claim 22, wherein the applying step includes printing the ink characteristic data in encrypted form.

IX EVIDENCE APPENDIX

There is no additional evidence to submit.

X RELATED PROCEEDING APPENDIX

There are no related appeals and interferences.